REMARKS

This Amendment and Response to Non-Final Office Action is being submitted in response to the non-final Office Action mailed July 12, 2005. Claims 1-43 are pending in the Application. Claims 1-43 stand rejected. Specifically, Claims 1-10, 12-17, 19-25, 27-32, 34-39, and 41-43 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Obara et al. (U.S. Patent Application Publication No. 2003/0037247) in view of Wing So (U.S. Patent Application Publication No. 2002/0109879). Claims 1, 3, 4, 11, 12, 18, 19, 26, 27, 33-35, 40, 41, and 43 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Obara et al. in view of Chang et al. (U.S. Patent No. 6,160,651).

In response to these rejections, Claim 35 has been amended to further clarify the subject matter which Applicant regards as the present invention. This amendment is fully supported in the Specification, Drawings, and Claims of the Application and no new matter has been added. Reconsideration of the Application is respectfully requested in view of the following remarks.

Rejection of Claims 1-10, 12-17, 19-25, 27-32, 34-39, and 41-43 Under 35 U.S.C. 103(a) - Obara et al. and Wing So:

Claims 1-10, 12-17, 19-25, 27-32, 34-39, and 41-43 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Obara et al. (U.S. Patent Application Publication No. 2003/0037247) in view of Wing So (U.S. Patent Application Publication No. 2002/0109879).

In the July 12 Office Action, Examiner indicates that he is unable to respond to Applicant's previously amended claims because the previously presented arguments dealt only with the deficiencies of the Obara et al. reference, and did not substantively address the Wing So reference. Herein, Applicant again presents these arguments related to the

Obara et al. reference, and presents new, substantive arguments related to the Wing So reference.

Obara et al. teach a computer system that sends encrypted data between a local system and a remote system. A host computer controls the reading, writing, and copying of the data between the local system and the remote system. Upon command, data within the disk drive (5a) of the local system (9) is placed in a shared memory where it is retrieved by the remote system (10) and placed in a disk drive (5b) of the remote system. Thus, the remote system includes a copy of the data. This data can be sent using a wide area network (WAN) between a local system and a remote system. See paragraphs 62 through 79.

Obara et al. teach a local system and a remote system that each have a single storage device. The single storage device contains the entirety of the stored data. Thus, the data used during operation of the local system and the remote system is stored along with the copy of the data in the same storage device. Therefore, if, for example, the remote system (10) which has stored a copy of the data from the local system (9) has a failure during operation, the operational and stored copy data can be lost.

In contrast, embodiments of the present invention provide an administrative node processor module that includes its own storage database and also a separate persistent storage module. The persistent storage module contains a copy of the administered information of one or more nodes stored within the storage database of the administrative module of the respective nodes and used by the storage module during operation by the respective nodes. Thus, if the administrative module fails or must be replaced, the administrative information of the various nodes is not lost, since the database is stored in the persistent storage module and can be obtained therefrom.

Further, embodiments of the present invention include various nodes that do not include a persistent storage module. The persistent storage module contained in a first node becomes associated with a second node that does not contain a persistent storage module and the persistent storage module is used by the second node for storing administrative information. In another embodiment, a query is sent by a node containing a persistent storage module through the system to determine which nodes have become associated with the persistent storage module it contains.

Further, in another embodiment of the present invention, the first node obtains the administrative information for a second node and performs the administrative operation for both the first and second nodes.

Obara et al. do not teach or suggest the use of a persistent storage module as taught in the present invention. Further, Obara et al. fail to teach or suggest a node associating itself with a persistent storage module of a second node. Obara et al. also fail to teach or suggest a node containing a persistent storage module sending a query through the system to determine which nodes have associated itself with its persistent storage module. Finally, Obara et al. fail to teach or suggest a node obtaining administrative information for a second node and performing the administration information for both the first and second nodes.

Thus, Obara et al. fail to teach or suggest, *inter alia*, a first node including a first administration node processor module, the first administrative node processor module including a database that stores administrative information used during operation of the first node for performing administrative functions, and a persistent storage module for storing a copy of the administrative information; a second node including a second administrative node processor module, the second administrative node processor module including a database that stores administrative information used during operation of the second node for performing administrative functions; and an optical signal channel for

carrying a copy of the administrative information from the second node to the first node for storage and the persistent storage module located in the first node, as recited in Claim 1.

Obara et al. also fail to teach or suggest, *inter alia*, a first node including an administrative node processor module for performing administrative functions, the administrative processor module having a persistent storage memory portion associated with a second node for storing administrative information of the second node, as recited in Claim 12.

Obara et al. further fail to teach or suggest, *inter alia*, a first node including an administrative node processor module for performing administrative functions for the first node and a second node, as recited in Claim 19.

Obara et al. still further fail to teach or suggest, *inter alia*, a first node receiving administration information from a second node, the first node storing the received administrative information from the second node in a persistent storage memory portion located in the first node, the first node performing administrative functions for the second node, as recited in Claim 27.

Obara et al. still further fail to teach or suggest, *inter alia*, a first node sending a query to one or more of the other nodes a network via an optical signal channel...the first node determining which of the other network nodes has a persistent storage memory associated with the first node, as recited in Claim 34.

Obara et al. still further fail to teach or suggest, *inter alia*, sending administrative information from a first node to another network node for storage in the persistent storage memory in the other network node; receiving the administrative information from the first node at the other network node and storing the administrative information from the

first node in the persistent storage memory in the other network node, as recited in Claim 35.

Obara et al. still further fail to teach or suggest, *inter alia*, means for storing the received administration information from the second node in a persistent storage memory located in the first node and means for performing administration functions for the second node by the first node, as recited in Claim 41.

Obara et al. still further fail to teach or suggest, *inter alia*, means for sending a query from a first node to one or more of the other nodes in the network and means for determining by the first node which of the other network nodes has a persistent storage memory associated with the first node, as recited in Claim 42.

Obara et al. still further fail to teach or suggest, *inter alia*, means for sending administrative information from a first node to another network node for storage in the persistent storage memory and the other network node; means for receiving the administrative information from the first node and means for storing the administrative information from the first node in the persistent storage memory in the other network node, as recited in Claim 43.

Wing So does not make up for the above noted deficiencies of Obara et al. In general, Wing So has been provided to teach only communication via optical channels.

Wing So teaches a method and system for providing network configuration and control information. The configuration and control information is encoded and used to modulate a data-carrying optical signal. Later network elements demodulate and decode the data to determine configuration and control commands and requests. The method of providing network configuration data comprises receiving a data-carrying optical signal; providing control information; modulating the data-carrying optical signal using the

control information such that the optical signal carries both the data and the control information; and transmitting the modulated optical signal. A spatial light modulator, typically a micromirror array, can be used to modulate the optical signal.

Thus, Wing So fails to teach or suggest the use of a persistent storage module as taught in the present invention. Further, Wing So fails to teach or suggest a node associating itself with a persistent storage module of a second node. Wing So also fails to teach or suggest a node containing a persistent storage module sending a query through the system to determine which nodes have associated itself with its persistent storage module. Finally, Wing So fails to teach or suggest a node obtaining administrative information for a second node and performing the administration information for both the first and second nodes.

Examiner apparently does not dispute these deficiencies of Wing So, stating only "[Wing] So disclosed using a signaling channel to convey control information (see e.g., page 15 paragraph 0343)." (July 12 Office Action, page 3).

Therefore, Applicant submits that the rejection of Claims 1-10, 12-17, 19-25, 27-32, 34-39, and 41-43 under 35 U.S.C. 103(a) as being unpatentable over Obara et al. (U.S. Patent Application Publication No. 2003/0037247) in view of Wing So (U.S. Patent Application Publication No. 2002/0109879) has now been traversed and respectfully requests that this rejection be withdrawn.

Rejection of Claims 1, 3, 4, 11, 12, 18, 19, 26, 27, 33-35, 40, 41, and 43 Under 35 U.S.C. 103(a) - Obara et al. and Chang et al.:

Claims 1, 3, 4, 11, 12, 18, 19, 26, 27, 33-35, 40, 41, and 43 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Obara et al. in view of Chang et al. (U.S. Patent No. 6,160,651).

In the July 12 Office Action, Examiner indicates that he is unable to respond to Applicant's previously amended claims because the previously presented arguments dealt only with the deficiencies of the Obara et al. reference, and did not substantively address the Chang et al. reference. Herein, Applicant again presents these arguments related to the Obara et al. reference, and presents new, substantive arguments related to the Chang et al. reference.

Obara et al. teach a computer system that sends encrypted data between a local system and a remote system. A host computer controls the reading, writing, and copying of the data between the local system and the remote system. Upon command, data within the disk drive (5a) of the local system (9) is placed in a shared memory where it is retrieved by the remote system (10) and placed in a disk drive (5b) of the remote system. Thus, the remote system includes a copy of the data. This data can be sent using a wide area network (WAN) between a local system and a remote system. See paragraphs 62 through 79.

Obara et al. teach a local system and a remote system that each have a single storage device. The single storage device contains the entirety of the stored data. Thus, the data used during operation of the local system and the remote system is stored along with the copy of the data in the same storage device. Therefore, if, for example, the remote system (10) which has stored a copy of the data from the local system (9) has a failure during operation, the operational and stored copy data can be lost.

In contrast, embodiments of the present invention provide an administrative node processor module that includes its own storage database and also a separate persistent storage module. The persistent storage module contains a copy of the administered information of one or more nodes stored within the storage database of the administrative module of the respective nodes and used by the storage module during operation by the

respective nodes. Thus, if the administrative module fails or must be replaced, the administrative information of the various nodes is not lost, since the database is stored in the persistent storage module and can be obtained therefrom.

Further, embodiments of the present invention include various nodes that do not include a persistent storage module. The persistent storage module contained in a first node becomes associated with a second node that does not contain a persistent storage module and the persistent storage module is used by the second node for storing administrative information. In another embodiment, a query is sent by a node containing a persistent storage module through the system to determine which nodes have become associated with the persistent storage module it contains.

Further, in another embodiment of the present invention, the first node obtains the administrative information for a second node and performs the administrative operation for both the first and second nodes.

Obara et al. do not teach or suggest the use of a persistent storage module as taught in the present invention. Further, Obara et al. fail to teach or suggest a node associating itself with a persistent storage module of a second node. Obara et al. also fail to teach or suggest a node containing a persistent storage module sending a query through the system to determine which nodes have associated itself with its persistent storage module. Finally, Obara et al. fail to teach or suggest a node obtaining administrative information for a second node and performing the administration information for both the first and second nodes.

Thus, Obara et al. fail to teach or suggest, *inter alia*, a first node including a first administration node processor module, the first administrative node processor module including a database that stores administrative information used during operation of the first node for performing administrative functions, and a persistent storage module for

storing a copy of the administrative information; a second node including a second administrative node processor module, the second administrative node processor module including a database that stores administrative information used during operation of the second node for performing administrative functions; and an optical signal channel for carrying a copy of the administrative information from the second node to the first node for storage and the persistent storage module located in the first node, as recited in Claim 1.

Obara et al. also fail to teach or suggest, *inter alia*, a first node including an administrative node processor module for performing administrative functions, the administrative processor module having a persistent storage memory portion associated with a second node for storing administrative information of the second node, as recited in Claim 12.

Obara et al. further fail to teach or suggest, *inter alia*, a first node including an administrative node processor module for performing administrative functions for the first node and a second node, as recited in Claim 19.

Obara et al. still further fail to teach or suggest, *inter alia*, a first node receiving administration information from a second node, the first node storing the received administrative information from the second node in a persistent storage memory portion located in the first node, the first node performing administrative functions for the second node, as recited in Claim 27.

Obara et al. still further fail to teach or suggest, *inter alia*, a first node sending a query to one or more of the other nodes a network via an optical signal channel...the first node determining which of the other network nodes has a persistent storage memory associated with the first node, as recited in Claim 34.

Obara et al. still further fail to teach or suggest, *inter alia*, sending administrative information from a first node to another network node for storage in the persistent storage memory in the other network node; receiving the administrative information from the first node at the other network node and storing the administrative information from the first node in the persistent storage memory in the other network node, as recited in Claim 35.

Obara et al. still further fail to teach or suggest, *inter alia*, means for storing the received administration information from the second node in a persistent storage memory located in the first node and means for performing administration functions for the second node by the first node, as recited in Claim 41.

Obara et al. still further fail to teach or suggest, *inter alia*, means for sending a query from a first node to one or more of the other nodes in the network and means for determining by the first node which of the other network nodes has a persistent storage memory associated with the first node, as recited in Claim 42.

Obara et al. still further fail to teach or suggest, *inter alia*, means for sending administrative information from a first node to another network node for storage in the persistent storage memory and the other network node; means for receiving the administrative information from the first node and means for storing the administrative information from the first node in the persistent storage memory in the other network node, as recited in Claim 43.

Chang et al. do not make up for the above noted deficiencies of Obara et al. In general, Chang et al. have been provided to teach only communication via optical channels.

Chang et al. teach an optical signaling header technique applicable to optical networks wherein packet routing information is embedded in the same channel or wavelength as the data payload so that both the header and data payload propagate through network elements with the same path and the associated delays. The technique effects survivability and security of the optical networks by encompassing conventional electronic security with an optical security layer by generating replicated versions of the input data payload at the input node, and the transmission of each of the replicated versions over a corresponding one of the plurality of links. Moreover, each of the links is composed of multiple wavelengths to propagate optical signals or optical packets, and each of the replicated versions of the data payload may be propagated over a selected one of the wavelengths in each corresponding one of the plurality of links.

Thus, Chang et al. fail to teach or suggest the use of a persistent storage module as taught in the present invention. Further, Chang et al. fail to teach or suggest a node associating itself with a persistent storage module of a second node. Chang et al. also fail to teach or suggest a node containing a persistent storage module sending a query through the system to determine which nodes have associated itself with its persistent storage module. Finally, Chang et al. fail to teach or suggest a node obtaining administrative information for a second node and performing the administration information for both the first and second nodes.

Examiner apparently does not dispute these deficiencies of Chang et al., stating only "Chang [et al.] disclosed using a signaling channel to convey control information (see col./line: 21/30-35)." (July 12 Office Action, page 5).

Therefore, Applicant submits that the rejection of Claims 1, 3, 4, 11, 12, 18, 19, 26, 27, 33-35, 40, 41, and 43 under 35 U.S.C. 103(a) as being unpatentable over Obara et al. in view of Chang et al. (U.S. Patent No. 6,160,651) has now been traversed and respectfully requests that this rejection be withdrawn.

Non-Rejection of Claims 34 and 42:

Applicant respectfully notes that, although Examiner indicates that Claims 34 and 42 stand rejected, Examiner has not directly or substantively addressed the elements/limitations of these claims, which recite:

> Claim 34. In an optical communications network having a plurality of nodes, a method comprising:
>
> a first node sending a query to one or more of the other nodes in the network via an optical signaling channel traveling on one or more paths including one or more optical transmission media between the first node and the other network nodes; and
>
> the first node determining which of the other network nodes has a persistent storage memory associated with the first node.

> Claim 42. An optical network having a plurality of nodes comprising:
>
> means for sending a query from a first node to one or more of the other nodes in the network via internodal communication means between the first node and the other network nodes; and
>
> means for determining by the first node which of the other network nodes has a persistent storage memory associated with the first node.

Applicant submits that these elements/limitations are not disclosed, taught, or suggested by Obara et al., Wing So, or Chang et al.

CONCLUSION

Applicant would like to thank Examiner for the attention and consideration accorded the present Application. Should Examiner determine that any further action is necessary to place the Application in condition for allowance, Examiner is encouraged to contact undersigned Counsel at the telephone number, facsimile number, address, or email address provided below. It is not believed that any fees for additional claims, extensions of time, or the like are required beyond those that may otherwise be indicated in the documents accompanying this paper. However, if such additional fees are required, Examiner is encouraged to notify undersigned Counsel at Examiner's earliest convenience.

Respectfully submitted,

Date: October 12, 2005

Christopher L. Bernard
Registration No.: 48,234
Attorney for Applicants

DOUGHERTY, CLEMENTS, HOFER, BERNARD& WALKER
1901 Roxborough Road, Suite 300
Charlotte, North Carolina 28211 USA
Telephone: 704.366.6642
Facsimile: 704.366.9744
cbernard@worldpatents.com